

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ORDER No. 89-166
NPDES PERMIT No. CA0037885

WASTE DISCHARGE REQUIREMENTS FOR:
CONTRA COSTA COUNTY SANITATION DISTRICT No. 5,
PORT COSTA,
CONTRA COSTA COUNTY

The California Regional Water Quality Control Board,
San Francisco Bay Region (hereinafter called the Board) finds that:

1. The Contra Costa County Sanitation District No. 5 (hereinafter called the discharger), submitted a report of waste discharge dated April 17, 1989, for the reissuance of waste discharge requirements and a permit to discharge under the National Pollutant Discharge Elimination System (NPDES).
2. The Discharger presently discharges an annual average flow of 0.013 million gallons per day (MGD) from its recirculating sand filter bed secondary treatment plant which has a dry weather design treatment capacity of 0.033 MGD. The plant provides secondary treatment of primarily domestic wastewater, and a lesser amount of commercial wastewater, from the community of Port Costa, which currently has a population of 260 people. The treated effluent is discharged into Carquinez Strait, a water of the State and of the United States, through a submerged outfall and diffuser approximately 60 feet offshore, at a depth of about 17.5 feet below mean lower low water (Location coordinates: 38 deg., 02 min., 55 sec. N. Latitude; 122 deg., 10 min., 56 sec. W. Longitude).
3. Wastewater is conveyed from the community by gravity to a 54,000 gallon capacity, baffled septic tank where the wastewater receives primary sedimentation. Septic tank effluent flows by gravity to a wet well where wastewater is mixed with treated wastewater at a ratio of about four or five parts treated wastewater to one part septic tank effluent. Mixed wastewater is pumped to a dosing structure which distributes the wastewater to sand/gravel filter beds. Filtered water is collected by underdrains and returned to a flow splitter box in the wet well. A portion of the treated wastewater flows over a V-notch weir into a contact chamber where it is chlorinated and dechlorinated before being discharged through the submerged outfall. The remainder of the treated wastewater is mixed with septic tank effluent and recirculated through the filter bed system.

4. The discharge is presently governed by Waste Discharge Requirements in Order No. 84-49, adopted by the Board on August 15, 1984, which allow discharge to Carquinez Strait.
5. The Regional Board adopted a revised Water Quality Control Plan for the San Francisco Bay Basin (Basin Plan) on December 17, 1986. The Basin Plan contains a listing of beneficial uses and water quality objectives for surface waters in the region, including the Carquinez Strait and contiguous waters.
6. The beneficial uses of Carquinez Strait and adjacent waters identified in the Basin Plan include:
 - a. Contact and Non-Contact Water Recreation
 - b. Commercial and Sport Fishing
 - c. Navigation
 - d. Industrial Uses
 - e. Fish Spawning and Migration
 - f. Estuarine Habitat
 - g. Wildlife Habitat
 - h. Preservation of Rare and Endangered Species
7. An Operation and Maintenance Manual is maintained by the Discharger for purposes of providing plant and regulatory personnel with a source of information describing all equipment, facilities, recommended operation strategies, process control monitoring, and maintenance activities. In order to remain a useful and relevant document, the manual should be kept updated to reflect significant changes in treatment facilities.
8. This Order serves as an NPDES Permit, adoption of which is exempt from the provisions of Chapter three (commencing with Section 21100) of Division 13 of the Public Resources Code (California Environmental Quality Act) pursuant to Section 13389 of the California Water Code.
9. The Discharger and interested agencies and persons have been notified of the Board's intent to reissue requirements for the existing discharge and have been provided an opportunity for a public hearing and the opportunity to submit their written views and recommendations.
10. The Board, in a public meeting, heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED, pursuant to the provisions of Division 7 of the California Water Code and regulations adopted thereunder, and to the provisions of the Clean Water Act and regulations and guidelines adopted thereunder, that

the Discharger shall comply with the following:

A. Discharge Prohibitions

1. The bypass or overflow of untreated or partially treated wastewater to waters of the State, either at the treatment plant or from the collection system or pump stations tributary to the treatment plant, is prohibited.
2. The discharge of average dry weather flows greater than 0.033 million gallons per day is prohibited. Average dry weather flow shall be determined over three consecutive dry weather months each year.
3. Discharge of wastewater at any point where it does not receive a minimum initial dilution of 10:1 is prohibited.

B. Effluent Limitations

1. Effluent discharged shall not exceed the following limits:

Constituent	Units	Monthly Average	Weekly Average	Daily Maximum	Instantaneous Maximum
a. Biochemical Oxygen Demand (BOD-5)	mg/l	30	45	60	---
b. Total Suspended Solids	mg/l	30	45	60	---
c. Settleable Matter	ml/l-hr	0.1	---	---	0.2
d. Oil and Grease	mg/l	10	---	20	---
e. Total Chlorine Residual (1)	mg/l	---	---	---	0.0

(1) Requirement defined as below the limit of detection in standard test methods.

2. The arithmetic mean of the biochemical oxygen demand (five day, 20 degrees celsius) and suspended solids values, by weight for effluent samples collected in a period of 30 consecutive calendar days shall not exceed 15 percent of the arithmetic mean of the respective values, by weight, for influent samples collected at approximately the same times during the same period (85 percent removal).

3. The pH of the discharge shall not exceed 9.0 nor be less than 6.0.
4. The moving median value for the Most Probable Number (MPN) of total coliform bacteria in any five (5) consecutive effluent samples shall not exceed 240 MPN per 100 ml). Any single sample shall not exceed 10,000 MPN/100 ml.
5. The survival of test organisms acceptable to the Board in 96-hour bioassays of the effluent shall be a 90 percentile value of not less than 50 percent survival, based on the ten most recent consecutive samples.
6. Representative samples of the effluent shall not exceed the following limits in micrograms per liter (ug/l): (1)

<u>Constituent</u>	<u>Daily Average</u> (2)
a. Arsenic	200
b. Cadmium	30
c. Chromium (VI)	110
d. Copper	200
e. Lead	56
f. Mercury	1
g. Nickel	71
h. Silver	23
i. Zinc	580
j. Cyanide	25
k. Phenols	500
l. PAHs (4)	150

- (1) These limits are intended to be achieved through secondary treatment and applicable pretreatment programs.
- (2) Average of all flow-weighted samples collected over a 24-hour period.
- (3) The Discharger may at its option meet this limit as total chromium.
- (4) Polynuclear Aromatic Hydrocarbons (PAHs). This limit applies to the summation of the detected levels of the individual

PAHs). If a discharge exceeds this limit, the concentrations of individual constituents shall be reported.

C. Receiving Water Limitations

1. The discharge of waste shall not cause the following conditions to exist in waters of the State at any place:
 - a. Flowing, suspended, or deposited macroscopic particulate matter or foam;
 - b. Bottom deposits or aquatic growths;
 - c. Alteration of temperature, turbidity, or apparent color beyond present natural background levels;
 - d. Visible, floating, suspended, or deposited oil or other products of petroleum origin;
 - e. Toxic or other deleterious substances to be present in concentrations or quantities which will cause deleterious effects on aquatic biota, wildlife, or waterfowl, or which render any of these unfit for human consumption either at levels created in the receiving waters or as a result of biological concentration.
2. The discharge of waste shall not cause the following limits to be exceeded in waters of the State in any place within one foot of the water surface:
 - a. Dissolved Oxygen 7.0 mg/l, minimum

The median dissolved oxygen concentration for any three consecutive months shall not be less than 80 percent of the dissolved oxygen content at saturation. When natural factors cause lesser concentrations than those specified above, then the discharge shall not cause further reduction in the ambient concentration of dissolved oxygen.
 - b. Dissolved Sulfide 0.1 mg/l, maximum.
 - c. pH Variation from normal ambient pH by more than 0.5 pH units.
 - d. Un-Ionized Ammonia 0.025 mg/l as N, annual median; 0.16 mg/l as N, maximum.

3. The discharge shall not cause a violation of any applicable water quality standard for receiving waters adopted by the Board or the State Water Resources Control Board as required by the Clean Water Act and regulations adopted thereunder. If more stringent applicable water quality standards are promulgated or approved pursuant to Section 303 of the Clean Water Act, or amendments thereto, the Board will revise and modify this Order in accordance with such more stringent standards.

D. Provisions

1. Requirements prescribed by this order supersede the requirements prescribed by Oder No. 84-49. Order No. 84-49 is hereby rescinded.
2. Where concentration limitations in mg/l or ug/l are contained in this Permit, the following Mass Emission Limitations shall also apply:

$$(\text{Mass Emission Limit in lbs/day}) = (\text{Concentration Limit in mg/l}) \times (\text{Actual Flow in million gallons per day averaged over the time interval to which the limit applies}).$$
3. The Discharger shall comply with all sections of this Order immediately upon adoption.
4. The Discharger shall comply with all applicable items of the attached Self-Monitoring Program. The Board's Executive Officer may make minor amendments to this Self-Monitoring Program pursuant to federal regulations (40 CFR 122.63).
5. The Discharger shall comply with all applicable items of the attached "Standard Provisions and Reporting Requirements" dated December, 1986.
6. Compliance with Effluent Limitation B.5 shall be determined using two test species in parallel, static renewal bioassays which use undiluted effluent. One test specie shall be three spine stickleback, and the other shall be either rainbow trout or fathead minnow.
7. The Discharger shall review and update its Operations and Maintenance Manual annually, or in the event of significant facility or process changes, shortly after such changes have occurred. Annual revisions, or letters stating that no changes are needed, shall be submitted to the Regional Board by April 15 of each year.
8. The Discharger shall review and update by December 31, annually, its contingency plan as required by Board Resolution No. 74-10. The discharge of pollutants in violation of this Order where the Discharger has failed to develop

and/or implement a willful and negligent violation of this Order pursuant to Section 13387 of the California Water Code.

9. This Order expires September 20, 1994. The Discharger must file a Report of Waste Discharge in accordance with Title 23, Chapter 3, Subchapter 9 of the California Administrative Code not later than 180 days in advance of such expiration date as application for issuance of new waste discharge requirements.
10. This Order shall serve as a National Pollutant Discharge Elimination System Permit pursuant to Section 402 of the Clean Water Act or amendments thereto, and shall become effective ten days after the date of its adoption provided the Regional Administrator, Environmental Protection Agency, has no objections. If the Regional Administrator objects to its issuance, the permit shall not become effective until such objection is withdrawn.

I, Steven R. Ritchie, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region on September 20, 1989.

Steven R. Ritchie



Executive Officer

Attachments:

Standard Provisions and Reporting
Requirements, December 1986
Self-Monitoring Program
Resolution No. 74-10

[File No. 2110.1034]
[Originators/BDA;MJR]
[Reviewer/RJC]

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

SELF-MONITORING PROGRAM

FOR

CONTRA COSTA COUNTY SANITATION DISTRICT NO. 5
PORT COSTA
CONTRA COSTA COUNTY

NPDES PERMIT NO. CA0037885

ORDER NO. 89 -166

CONSISTS OF

PART_A, dated December 1986

AND

PART_B

PART B

(CONTRA COSTA COUNTY SANITATION DISTRICT NO. 5)

I. DESCRIPTION OF SAMPLING STATIONS

A. INFLUENT

<u>Station</u>	<u>Description</u>
A-001	At any point in the treatment facilities headworks at which all waste tributary to the system is present and preceding any phase of treatment, and exclusive of any return flows or process sides-streams.

B. EFFLUENT

<u>Station</u>	<u>Description</u>
E-001	At any point in the treatment facilities between the point of discharge and the point at which all waste tributary to the outfall is present, and all treatment has occurred (May be same as E-001-D).
E-001-D	At any point in the disinfection facilities for Waste E-001 at which point adequate contact with the disinfectant is assured.

C. RECEIVING WATERS

<u>Station</u>	<u>Description</u>
C-1	At a point in Carquinez Strait, located in the vicinity of the outfall discharge point, and accessible from the shoreline.
C-2	At a point in Carquinez Strait, located approximately 50 feet down current from the point of discharge, and accessible from the shoreline.
C-R	At a point in Carquinez Strait, located approximately 1000 feet up current from the point of discharge, and accessible from the shoreline.

D. LAND OBSERVATIONS

<u>Station</u>	<u>Description</u>
P-1 through P-'n'	Points located at the corners and midpoints of the perimeter fenceline surrounding the treatment facilities.

NOTE: A sketch showing the locations of these stations shall accompany each monthly report and the Annual report for each calendar year.

E. OVERFLOWS AND BYPASSES

<u>Station</u>	<u>Description</u>
OV-1 through OV-'n'	At points in the collection system including manholes, pump stations, or any other location where overflows or bypasses occur.

- NOTES: 1. A map and description of each known overflow or bypass location shall accompany the Annual report for each calendar year.
2. Each occurrence of an overflow or bypass shall be reported to the Regional Board in accordance with the reporting requirements specified in Sections G.1. and G.2. of Part A.

II. SCHEDULE OF SAMPLING, MEASUREMENTS, AND ANALYSIS

- A. The schedule of sampling, measurements and analysis shall be that given as Table I (and Table I Footnotes).
- B. Due to subsurface hazards in the receiving waters, receiving water samples may be taken from the shoreline using a 'pole-and-bucket' or by a similar technique.

III. MODIFICATIONS TO PART A

- A. This monitoring program does not include the following sections of Part A: D.5., and E.4.
- B. Paragraph C.5. of Part A is revised to read:

Average weekly and monthly values are calculated as the sum of all daily discharge values measured during the specified period (calendar week or calendar month), divided by the number of daily discharge values measured during that specified period.

IV. REPORTING REQUIREMENTS

- A. Self-Monitoring Reports for each calendar month shall be submitted monthly, to be received no later than the 15th day of the following month. The required contents of these reports are specified in Section G.4. of Part A.
- B. An annual report covering the previous calendar year shall be submitted to the Regional Board by January 30 of each year. The required contents of the annual report are specified in section G.5. of Part A.
- C. Any overflow, bypass or other significant non-compliance incident that may endanger health or the environment shall be reported according to sections G.1. and G.2. of Part A.

I, Steven R. Ritchie, Executive Officer, hereby certify that the foregoing Self-Monitoring Program:

- 1. Has been developed in accordance with the procedure set forth in the Regional Board's Resolution NO. 73-16 in order to obtain data and document compliance with waste discharge requirements established in Regional Board Order NO. 89-166.
- 2. Is effective on the date shown below.
- 3. May be reviewed at any time subsequent to the effective date upon written notice from the Executive Officer or request from the discharger and revisions will be ordered by the Executive Officer.

STEVEN R. RITCHIE



Executive Officer

Effective Date 9/20/87

Attachment: Table I with footnotes